

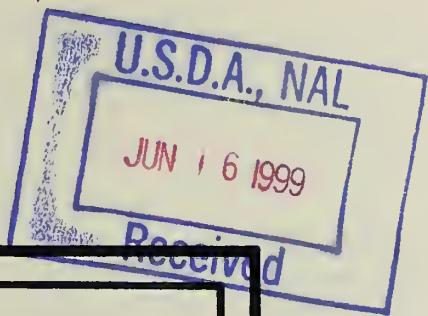
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UNITED STATES DEPARTMENT OF AGRICULTURE  
CONSUMER AND MARKETING SERVICE  
WASHINGTON, D.C.

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**UNITED STATES  
STANDARDS**

*for grades of*

**BULK SAUERKRAUT**



**EFFECTIVE MAY 24, 1967**

**First Issue  
As Amended**

These standards supersede the standards  
which have been in effect since  
May 27, 1935



This first issue of the United States Standards for Grades of Bulk Sauerkraut was amended, effective May 24, 1967. These amended standards contain minor modifications in format (including new section numbers) and rearrangement of text. None of the requirements were changed by the amended standards, published in the Federal Register of May 24, 1967 (32 F.R. 7568).

As is the case of other standards for processed fruits and vegetables, these standards are designed to serve as a convenient basis for sales, for establishing quality control programs, and for determining loan values. They will also serve as a basis for the inspection of this commodity by Federal inspection service, which is available for the inspection of other processed products as well.

The Department welcomes suggestions which might aid in improving these standards in future revisions. Comments may be submitted to, and copies of these standards obtained from:

Chief, Processed Products Standardization  
and Inspection Branch  
Fruit and Vegetable Division, C&MS  
U.S. Department of Agriculture  
Washington, D. C. 20250

# UNITED STATES STANDARDS FOR GRADES OF

## BULK SAUERKRAUT

**Effective May 24, 1967**

Sec.	PRODUCT DESCRIPTION, GRADES
52.3451	Product description.
52.3452	Grades of bulk sauerkraut.
<b>FACTORS OF QUALITY</b>	
52.3453	Ascertaining the grade.
52.3454	Ascertaining the rating of each factor.
52.3455	Color.
52.3456	Cut.
52.3457	Absence of defects.
52.3458	Texture.
52.3459	Flavor.

METHODS OF ANALYSIS	
52.3460	Determination of acidity.

LOT COMPLIANCE	
52.3461	Ascertaining the grade of a lot.

SCORE SHEET	
52.3462	Score sheet for bulk sauerkraut.

Authority:  
(Secs. 203, 205, 60 Stat. 1087, as amended,  
1090, as amended; 7 U.S.C. 1622, 1624)

PRODUCT DESCRIPTION, GRADES	
§ 52.3451	Product description.

Bulk or barreled sauerkraut, herein-after referred to as "sauerkraut" or "bulk sauerkraut" is the product of characteristic acid flavor, obtained by the full fermentation, chiefly lactic, of properly prepared and shredded cabbage in the presence of not less than 2 percent nor more than 3 percent of salt. It contains, upon completion of the fermentation, not less than 1.5 percent of acid, expressed as lactic acid.

### § 52.3452 Grades of bulk sauerkraut.

(a) "U.S. Grade A (First Quality)" bulk sauerkraut is of a color approximat-

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Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act or with applicable State laws and regulations.

ing, or is lighter than "Olive Buff" (according to Ridgway's "Color Standards and Nomenclature"), with the shreds uniformly cut to approximately  $\frac{1}{32}$ -inch in thickness. The product is practically free from defects and blemishes; is of fine, crisp texture; possesses a normal, well developed, sauerkraut flavor; and scores not less than 85 points when scored according to the scoring system outlined herein.

(b) "U.S. Grade C (Second Quality)" bulk sauerkraut may have a variable straw color, but not darker than "Dark Olive Buff" (according to Ridgway's "Color Standards and Nomenclature"); the shreds may lack uniformity of thickness. The product is reasonably free from defects and blemishes; is of reasonably fine, crisp texture; possesses a normal sauerkraut flavor; and scores not less than 70 points and need not score more than 84 points when scored according to the scoring system outlined herein.

(c) "Substandard" bulk sauerkraut is sauerkraut that fails to meet the requirements of the foregoing grades or when any one of the grading factors falls in the (D) classification.

FACTORS OF QUALITY	
§ 52.3453	Ascertaining the grade.

The grade of bulk sauerkraut may be ascertained by considering, in addition to the requirements in the definition, the following factors: Color, cut, absence of defects, texture, and flavor. The relative importance of each element has been expressed numerically on a scale of 100. The maximum number of credits that may be given for each factor is:

	Points
Color	15
Cut	15
Absence of defects	10
Texture	15
Flavor	45
Total score	100

#### § 52.3454 Ascertaining the rating of each factor.

The essential variations within each factor are so described that the value may be ascertained for each factor and expressed numerically. The numerical ranges within each factor are inclusive. For instance, the range 13 to 15 means 13, 14, and 15.

#### § 52.3455 Color.

(a) (A) *classification.* Sauerkraut that possesses a color approximating, or is lighter than "Olive Buff" (according to Ridgway's "Color Standards and Nomenclature"), may be given a credit of 13 to 15 points.

(b) (C) *classification.* If the sauerkraut possesses a color ranging from "Olive Buff" to (but not darker than) "Dark Olive Buff", or is slightly greenish or yellowish, or possesses a tint of light brown, a credit of 10 to 12 points may be allowed. Sauerkraut that falls in this classification shall not be graded above U.S. Grade C (Second Quality), regardless of the total score for the product.

(c) (D) *classification.* If the sauerkraut possesses a decidedly dark, or pink tinted color, a credit within the range of zero to nine points may be allowed.

#### § 52.3456 Cut.

(a) (A) *classification.* If the shreds of sauerkraut are uniformly cut to approximately  $\frac{1}{32}$ -inch in thickness and are of a reasonable length, a credit of 13 to 15 points may be allowed.

(b) (C) *classification.* If the cut is very irregular, the shreds being "choppy" and poorly cut, a credit of 10 to 12 points may be allowed. Sauerkraut that falls in this classification may not be graded above U.S. Grade C (Second Quality), regardless of the total score for the product.

(c) (D) *classification.* Sauerkraut that is very uneven in cut, containing decidedly thick or short shreds, may be given a credit of not more than nine points.

#### § 52.3457 Absence of defects.

(a) *General.* The factor of absence of defects refers to defects such as large pieces of leaves, dead leaves, large pieces of core, spotted shreds, or other defects.

(b) (A) *classification.* Sauerkraut that is practically free from the defects mentioned may be given a credit of nine to 10 points.

(c) (C) *classification.* If the product is reasonably free from the defects mentioned, a credit of six to eight points may be allowed. Sauerkraut that falls in this classification shall not be graded above U.S. Grade C (Second Quality), regardless of the total score for the product.

(d) (D) *classification.* If pieces of dead leaves, large pieces of core, spotted shreds, or any similar blemishes are prominently present to the extent of injuring the appearance of the product, a credit within the range of zero to five points may be allowed.

#### § 52.3458 Texture.

(a) *General.* The factor of texture refers to the condition of the product and the tendency of the shreds to be firm, fresh, crisp, and easy to cut, as contradistinguished to soft or mushy.

(b) (A) *classification.* Sauerkraut that is firm and crisp may be given a credit of 13 to 15 points.

(c) (C) *classification.* If the product is somewhat tough, or is slightly soft, a credit of 10 to 12 points may be allowed. Sauerkraut that falls in this classification shall not be graded above U.S. Grade C (Second Quality), regardless of the total score for the product.

(d) (D) *classification.* If the sauerkraut is tough, or contrariwise, is soft and mushy, a credit within the range of zero to nine points may be allowed.

#### § 52.3459 Flavor.

(a) (A) *classification.* Sauerkraut that has a highly acid (expressed as lactic), palatable, clean, characteristic sau-

kraut flavor, may be given a credit of 40 to 45 points.

(b) (C) *classification.* If the product possesses a good sauerkraut flavor that may be suggestive of improper bacterial action, but not markedly so, it may be given a credit of 34 to 39 points. Sauerkraut that falls in this classification shall not be graded above U.S. Grade C (Second Quality), regardless of the total score for the product.

(c) (D) *classification.* If the flavor is poor and unpalatable from any cause (acetic, butyric, yeasty, moldy, very salty, bitter stale, or rancid), a credit within the range of zero to 33 points may be allowed.

#### METHODS OF ANALYSIS

##### § 52.3460 Determination of acidity.

The method of titration used to determine the degree of lactic acidity in sauerkraut is as follows: Place 10 cc. of sauerkraut juice in a flask, add 40 cc. of distilled water (hydrant water contains large quantities of alkaline salts which tend to neutralize the sauerkraut acid before titration takes place). Shake the flask to mix thoroughly the sauerkraut juice and water. Add three or four drops of phenolphthalein solution. Into this mixture slowly run, drop by drop, from a burette graduated in  $\frac{1}{10}$  cc. and filled with  $\frac{1}{9}$  normal solution of sodium hydroxide, enough of the sodium hydroxide to bring a permanent pink tint to the sauerkraut juice solution, shaking the flask as the sodium hydroxide is added. As soon as the pink tint becomes permanent (at first it will fade away), note the amount of the hydroxide used, divide this number by 10, and the result is a number which is the percentage of lactic acid in the sauerkraut juice.

#### LOT COMPLIANCE

##### § 52.3461 Ascertaining the grade of a lot.

The grade of a lot of bulk sauerkraut covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 to 52.87).

#### SCORE SHEET

##### § 52.3462 Score sheet for bulk sauerkraut.

Identification marks on packages.....			
Net weight as indicated on package.....			
Percent acid.....			
Factors	Maxi-mum score	Points allowable	
Color.....	15	{(A) 13-15 (C) 10-12 (D) 0-9	
Cut.....	15	{(A) 13-15 (C) 10-12 (D) 0-9	
Absence of defects....	10	{(A) 9-10 (C) 6-8 (D) 0-5	
Texture.....	15	{(A) 13-15 (C) 10-12 (D) 0-9	
Flavor.....	45	{(A) 40-45 (C) 34-39 (D) 0-33	
Total Score.....	100		
Grade.....			

<sup>1</sup> Sauerkraut that falls in this classification may not be graded above U.S. Grade C (Second Quality).

<sup>2</sup> Sauerkraut that falls in this classification may not be graded above Substandard.

Dated: May 16, 1967.

G. R. GRANGE,  
Deputy Administrator,  
Marketing Services.





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